

# Appendix A - Acronym List

<b>3DES</b>	Triple DES	<b>BUS</b>	Broadcast/Unknown Server
<b>ABR</b>	Available Bit Rate	<b>C4ISR</b>	Command, Control, Communications, Computers, Intelligence, Surveillance, Reconnaissance
<b>ACE</b>	Automatic Calling Equipment	<b>CA</b>	Certification Authority
<b>ACSY-A</b>	Actual Accessibility	<b>CAD</b>	Computer-aided design
<b>ACSY-T</b>	Target Accessibility	<b>CADM</b>	C4ISR Core Architecture Data Model
<b>ACY</b>	Information accuracy	<b>CADRG</b>	Compressed Arc Digitized Raster Graphics
<b>ADNS</b>	Automated Digital Network System	<b>CALS III</b>	Computer-aided Acquisition and Logistics Support
<b>ADSL</b>	Asymmetric Digital Subscriber Line	<b>CAP</b>	Channel Access Protocol
<b>ALE</b>	Automatic Link Establishment	<b>CAP</b>	Storage Capacity
<b>AMON</b>	ATM Monitoring	<b>CASE</b>	Computer Aided Systems Engineering
<b>Ao</b>	Availability	<b>CASREP</b>	Casualty Report
<b>AOE</b>	Fast Combat Support Ship	<b>CATV</b>	Cable Television
<b>AOR</b>	Area of Responsibility	<b>CBC</b>	Cipher Block Chaining
<b>AOR</b>	Replenishment Oiler (ship class)	<b>CBR</b>	Constant Bit Rate
<b>API</b>	Application Programming Interface	<b>CBS</b>	Commission for Basic Systems
<b>ARG</b>	Amphibious Ready Group	<b>CCTV</b>	Closed Circuit Television
<b>ARP</b>	Address Resolution Protocol	<b>CDDI</b>	Copper FDDI
<b>ATM</b>	Asynchronous Transfer Mode	<b>CDMA</b>	Code Division Multiple Access
<b>AUTODIN</b>	Automatic Digital Network	<b>CG</b>	Guided Missile Cruiser
<b>AVC</b>	availability of the command's information infrastructure	<b>CG</b>	Link Congestion
<b>BAN</b>	Base Area Network	<b>CGI</b>	Common Gateway Interface
<b>BPCS</b>	Base, Post, Camp, Station	<b>CGM</b>	Computer Graphics Metafile
<b>BGP</b>	Border Gateway Protocol	<b>CIB</b>	Controlled Image Base
<b>BGP4</b>	Border Gateway Protocol (version 4)	<b>CIDE</b>	Communication Information Data Exchange
<b>BK</b>	Blocking	<b>CIDR</b>	Classless Inter Domain Routing
<b>BLII</b>	Base Level Information Infrastructure	<b>CINC</b>	Commander in Chief
<b>BNIDS</b>	Basic Network and Information Distribution Services	<b>CINCLANT</b>	Commander in Chief, U.S. Atlantic Fleet
<b>BOGSAT</b>	Bunch-Of-Guys (or Gals or both) Sitting Around a Table	<b>FLT</b>	
<b>BONDING</b>	Bandwidth On Demand Interoperability Group	<b>CINCPACF</b>	Commander in Chief, U.S. Pacific Fleet
<b>BPR</b>	Business Process Reengineering	<b>LT</b>	
<b>bps</b>	bits per second	<b>CIO</b>	Chief Information Officer
<b>BRI</b>	Basic Rate Interface	<b>CKM</b>	Constructive Key Management
<b>BUFR</b>	Binary Universal Format for Representation	<b>CLEC</b>	Competitive Local Exchange Carrier
		<b>CMC</b>	Common Messaging Call

<b>CMIP</b>	Common Management Information Protocol	<b>DES</b>	Digital Encryption Standard
<b>CNET</b>	Chief of Naval Education and Training	<b>DHCP</b>	Dynamic Host Configuration Protocol
<b>CNSG</b>	Commander Naval Security Group	<b>DII COE</b>	DII Common Operating Environment
<b>CO</b>	Central Office	<b>DII</b>	Defense Information Infrastructure
<b>CODEC</b>	Coder Decoder	<b>DIICC</b>	DII Control Center
<b>COE</b>	Common Operation Environment	<b>DISA</b>	Defense Information Systems Agency
<b>COI</b>	Community of Interest	<b>DISC</b>	DREN Intersite Services Contract
<b>COMP</b>	information completeness	<b>DISN</b>	Defense Information Services Network
<b>CONOPS</b>	Concept of Operations	<b>DMA</b>	Defense Mapping Agency (now NIMA)
<b>CONUS</b>	Continental United States	<b>DMI</b>	Desktop Management Interface
<b>CORBA</b>	Common Object Request Broker Architecture	<b>DMS</b>	Defense Messaging System
<b>COTS</b>	Commercial Off-the-Shelf	<b>DMTF</b>	Desktop Management Task Force
<b>CPE</b>	Customer Premise Equipment	<b>DMZ</b>	Demilitarized Zone
<b>CPS</b>	Certification Practices Statement	<b>DN</b>	ISDN Directory Numbers
<b>CR</b>	Capability Responsiveness	<b>DNC</b>	Digital Nautical Chart
<b>CRLS</b>	Certificate Revocation Lists	<b>DNS</b>	Domain Name System
<b>CSD</b>	Circuit Switched Data	<b>DON CIO</b>	Department of Navy Chief Information Officer
<b>CSTA</b>	Computer Supported Telecommunications Applications	<b>DON</b>	Department of the Navy
<b>CSU/DSU</b>	Customer Service Unit/Digital Service Unit	<b>DPPDB</b>	Digital Point Positioning Data Base
<b>CTI</b>	Computer telephony integration	<b>DQE</b>	Data Quality Engineering
<b>CTTA</b>	Certified TEMPEST Technical Authority	<b>DREN</b>	Defense Research and Engineering Network
<b>CUDA</b>	Comprehensive Utilities for Data Administration	<b>DS</b>	Digital Service
<b>CV</b>	Aircraft Carrier	<b>DSA</b>	Digital Signature Algorithm
<b>CVN</b>	Aircraft Carrier (Nuclear)	<b>DSA</b>	Directory Server Agents
<b>DAC</b>	Discretionary Access Control	<b>DSCS</b>	Defense Satellite Communication System
<b>DAP</b>	Directory Access Protocol	<b>DSL</b>	Digital Subscriber Line
<b>DART</b>	Data Analysis and Reconciliation Tool	<b>DSS</b>	Decision Support System
<b>DAS</b>	DISN ATM Services	<b>DSS</b>	Digital Signature Standard
<b>DBDB</b>	Digital Bathymetric Database	<b>DSSS</b>	Direct Sequence Spread Spectrum
<b>DBMS</b>	Database Management System	<b>DSV-G</b>	Defense Video Service - Global
<b>DCE</b>	Data Communications Equipment	<b>DTE</b>	Data Terminal Equipment
<b>DD</b>	Destroyer	<b>DTED</b>	Digital Terrain Elevation Data
<b>DDDS</b>	Defense Data Dictionary System	<b>DTOP</b>	Digital Topographic Data
<b>DDG</b>	Destroyer (Guided Missile)		
<b>DEF</b>	Data Exchange Format		

<b>DVMRP</b>	Distance Vector Multicast Routing Protocol	<b>GIS</b>	Geographic information system
<b>DWTS</b>	Defense Wideband Transmission System	<b>GKS</b>	Graphical Kernel System
<b>ECTF</b>	Enterprise Computer Telephony Forum	<b>GMF</b>	Ground Mobile Forces
<b>EDI</b>	Electronic Data Interchange	<b>GNI</b>	Global Network Initiative
<b>EDMS</b>	Electronic Document Management Systems	<b>GOSC</b>	Global Operations and Security Center
<b>EGP</b>	Exterior Gateway Protocol	<b>GOTS</b>	Government Off-The-Shelf
<b>EHF</b>	Extremely High Frequency	<b>GPS</b>	Global Positioning System
<b>EIA</b>	Electronic Industry Association	<b>GRIB</b>	Gridded Binary
<b>ELAN</b>	Emulated LAN	<b>HDSL</b>	High Speed Digital Subscriber Line
<b>EMI</b>	Electromagnetic Interference	<b>HF</b>	High Frequency
<b>EMN</b>	E-mail to Nobody	<b>HFC</b>	Hybrid Fiber/Coax
<b>ER</b>	Error rate	<b>HiPPI</b>	High Performance Parallel Interface
<b>ETSI</b>	Escuela Tecnica Superior de Ingenieros	<b>HMMO</b>	HyperMedia Managed Object
<b>FC</b>	Fiber Channel	<b>HMMS</b>	HyperMedia Management Schema
<b>FCC</b>	Federal Communications Commission	<b>HTML</b>	HyperText Markup Language
<b>FCP</b>	Fleet Communications Package	<b>HTTP</b>	HyperText Transfer Protocol
<b>FDBM</b>	Functional Database Managers	<b>IAB</b>	Internet Architecture Board
<b>FDDI</b>	Fiber Data Distributed Interface	<b>IATO</b>	Interim Authority To Operate
<b>FDMA</b>	Frequency Division Multiple Access	<b>ICMP</b>	Internet Control Message Protocol
<b>FFG</b>	Frigate (Guided Missile) (ship class)	<b>ICOM</b>	Inputs, Controls, Outputs and Mechanisms
<b>FHSS</b>	Frequency Hopping Spread Spectrum	<b>IDEF</b>	Integration Definition for Function Modeling
<b>FIPS</b>	Federal Information Processing Standard	<b>IER</b>	Information Exchange Requirement
<b>FIWC</b>	Fleet Information Warfare Center	<b>IETF</b>	Internet Engineering Task Force
<b>FOCP</b>	Fiber Optic Cable Plant	<b>IGES</b>	Initial Graphics Exchange Specification
<b>FOICB</b>	Fiber Optic Interconnection Box	<b>IGMP</b>	Internet Group Multicast Protocol
<b>FTP</b>	File Transfer Protocol	<b>IGP</b>	Interior Gateway Protocol
<b>FWSEB</b>	Force Warfare Systems Engineering Board	<b>IITMS</b>	Integrated Information Technology Management System
<b>Gbps</b>	Giga (billion) bits per second	<b>ILEC</b>	Incumbent Local Exchange Carrier
<b>GBS</b>	Global Broadcast System	<b>IM</b>	Information Management
<b>GCC</b>	Global Control Center	<b>IM/IT</b>	Information Management/Information Technology
<b>GCCS</b>	Global Command and Control System	<b>IMAP4</b>	Internet Message Access Protocol Version 4
<b>GCCS-M</b>	GCCS - Maritime		
<b>GCSS</b>	Global Combat Support System		
<b>GIF</b>	Graphics Interchange Format		

<b>IMETS</b>	Integrated Meteorological System	<b>JINTACCS</b>	Joint Interoperability of Tactical Command and Control Systems
<b>IMUX</b>	Inverse Multiplexor	<b>JMCIS</b>	Joint Maritime Command Information System
<b>INFOSEC</b>	Information Security (per DISA)	<b>JMTK</b>	Joint Mapping Toolkit
<b>INFOSEC</b>	Information System Security (per NIS)	<b>JPEG</b>	Joint Photographic Expert Group
<b>INMARSAT</b>	International Maritime Satellite	<b>JTA</b>	Joint Technical Architecture
<b>Intelsat</b>	International Telecommunication Satellites	<b>JTAPI</b>	Java TAPI
<b>IOC</b>	Initial Operating Capability	<b>JTDLMP</b>	Joint Tactical Data Link Management Plan
<b>IP</b>	Internet Protocol	<b>JTIDS</b>	Joint Tactical Information Distribution System
<b>IPSEC</b>	Internet Protocol Security	<b>JV 2010</b>	Joint Vision 2010
<b>IPT</b>	Integrated Product Team	<b>JWICS</b>	Joint Warfighter Intelligence Communications System
<b>IPv4</b>	Internet Protocol Version 4	<b>kbps</b>	kilo (thousand) bits per second
<b>IPv6</b>	Internet Protocol Version 6	<b>KG/KIV</b>	Key Generator (Crypto devices)
<b>ISAKMP</b>	Internet Security Association and Key Management Protocol	<b>L2P</b>	Layer-to-Layer Protocol
<b>ISD</b>	Information System Domain	<b>LAN</b>	Local Area Network
<b>ISDN</b>	Integrated Services Digital Network	<b>LANE</b>	LAN Emulation
<b>ISO</b>	International Organization for Standards	<b>LCC</b>	Local Control Center
<b>ISO/OSI</b>	International Organization for Standards/Open Systems Interconnect	<b>LDAP</b>	Lightweight Directory Access Protocol
<b>ISD</b>	Information System Domain	<b>LDR</b>	Low Data Rate
<b>ISP</b>	Internet Service Provider	<b>LEC</b>	LAN Emulation Client
<b>ISSP</b>	Information System Security Program	<b>LEC</b>	Local Exchange Carrier
<b>IT</b>	Information Technology	<b>LEO</b>	Low Earth Orbit
<b>IT21</b>	Information Technology for the 21st Century	<b>LHA</b>	Amphibious Assault Ship (General Purpose)
<b>ITMRA</b>	Information Technology Management Reform Act (Clinger-Cohen)	<b>LISI</b>	Levels of Systems Interoperability
<b>ITOC</b>	Information Technology Outreach Center	<b>LPD</b>	Low Probability of Detection
<b>ITSC</b>	Information Technology Service Center	<b>LPD</b>	Transport, Dock (ship class)
<b>ITSDN</b>	Interim Tactical Standard Data Network	<b>LPI</b>	Low Probability of Intercept
<b>ITSG</b>	Information Technology Standards Guidance	<b>LSD</b>	Landing Ship Dock (ship class)
<b>IVR</b>	Interactive Voice Response	<b>LWD</b>	Littoral Warfare Data
<b>IXC</b>	Inter Exchange Carrier	<b>MAC</b>	Media Access Control
<b>JDIICC</b>	Joint DII Control Concept	<b>MAGTF</b>	Marine Air-Ground Task Force
<b>JIEO</b>	Joint Interoperability and Engineering Organization	<b>MAN</b>	Metropolitan Area Network
		<b>MAPI</b>	Messaging Application Programming Interface
		<b>MBONE</b>	Multicast Backbone
		<b>Mbps</b>	Mega (million) bits per second
		<b>MC&amp;G</b>	Mapping, Charting, and Geodesy
		<b>MCM</b>	Mine Counter Measures
		<b>MCU</b>	Multi-point Control Units

<b>MD5</b>	Message Digest-5	<b>NIPRNET</b>	Non-secure IP (Internet Protocol) Router Network
<b>MDR</b>	Medium Data Rate	<b>NITFS</b>	National Imagery Transmission Format Standard
<b>METOC</b>	Meteorology and Oceanography	<b>NITSC</b>	Naval Information Technology Service Center
<b>MEU</b>	Marine Expeditionary Unit	<b>NIWA</b>	Naval Information Warfare Activity
<b>MFI</b>	Multi-Function Interpreter	<b>NMF</b>	Network Management Foundation
<b>MIB</b>	Management Information Base,	<b>NNTP</b>	Network News Transport Protocol
<b>MIC</b>	Message Integrity Check	<b>NOC</b>	Network Operations Center
<b>MIDS</b>	Management Information Data System	<b>NSA</b>	National Security Agency
<b>MIL-HDBK</b>	Military Handbook	<b>NSTISSAM</b>	National Security Telecommunications and Information Systems Security Advisory Memorandum
<b>MIL-STD</b>	Military Standard	<b>NSV</b>	Net Subscriber Value
<b>MIME</b>	Multipurpose Internet Mail Extension	<b>NT1</b>	ISDN Network Termination1 Device
<b>MLS</b>	Multi-level Security	<b>NTP</b>	Network Time Protocol
<b>MLSF</b>	Mobile Logistics Support Force	<b>NVI</b>	Naval Virtual Intranet
<b>MODEM</b>	Modulator Demodulator	<b>NWTDB</b>	Naval Warfare Tactical Database
<b>MOSPF</b>	Multicast Open Shortest Path First	<b>OA</b>	Office Automation
<b>MPEG</b>	Motion Picture Experts Group (version 1)	<b>OC</b>	Optical Carrier
<b>MPEG2</b>	Motion Picture Experts Group version 2	<b>OCE</b>	Open Collaboration Environment
<b>MPOA</b>	Multiprotocol Over ATM	<b>OCR</b>	Optical Character Reader
<b>MPP</b>	Multilink PPP	<b>ODA/ODIF</b>	Office Document Architecture/Office Document Interchange Format
<b>MROC</b>	Military Required Operating Capability	<b>ODBC</b>	Open Data Base Connectivity
<b>MS</b>	Message Store	<b>ODMG</b>	Object Database Management Group
<b>MTA</b>	Message Transfer Agent	<b>OM&amp;S</b>	Operations, Maintenance and Support
<b>MTBF</b>	Mean Time Between Failures	<b>OMG</b>	Open Management Group
<b>MTTR</b>	Mean Time To Repair	<b>OODBMS</b>	Object-oriented database management systems
<b>MUA</b>	Message User Agent	<b>OQL</b>	Object Query Language
<b>NAC</b>	Network Access Controller	<b>ORB</b>	Object Request Broker
<b>NAVAIR</b>	Naval Air Systems Command	<b>OSI</b>	Open Systems Interconnect
<b>NAVSEA</b>	Naval Sea Systems Command	<b>OSPF</b>	Open Shortest Path First
<b>NC</b>	Network Computer	<b>PAID</b>	Procedures, Applications, Infrastructure, and Data
<b>NCTAMS</b>	Naval Computer and Telecommunications Area Master Station	<b>PBX</b>	Private Branch Exchange
<b>NECC</b>	Navy EHF Communications Controller	<b>PC</b>	Personal Computer
<b>NES</b>	Network Encryption System		
<b>NIC</b>	Network Information Center		
<b>NIC</b>	Network Interface Card		
<b>NID</b>	Network Intrusion Device		
<b>NIF</b>	Network Intrusion Filter		

<b>PCAT</b>	Personal Computer Access Tool	<b>RMA</b>	Revolution in Military Affairs
<b>PCN</b>	Information precision	<b>RMON</b>	Remote Network Monitoring (version 1)
<b>PEO</b>	Program Executive Office	<b>RMON2</b>	Remote Network Monitoring (version 2)
<b>PEX</b>	PHIGS Extension to X	<b>ROI</b>	Return on Investment
<b>PGP</b>	Pretty Good Privacy	<b>ROSC</b>	Regional Operations and Security Center
<b>PHIGS</b>	Programmer's Hierarchical Interactive Graphics System	<b>RPF</b>	Raster Product Format
<b>PHY</b>	Physical Layer	<b>RS</b>	Recommended Standard (from EIA)
<b>PKCS</b>	Public Key Cryptography Standards	<b>RSVP</b>	Resource Reservation Protocol
<b>PKI</b>	Public Key Infrastructure	<b>RTP</b>	Real-time Transport Protocol
<b>PM</b>	Program Manager	<b>Rx</b>	Receive
<b>PNNI</b>	Private Network to Network Interface	<b>S/MIME</b>	Secure MIME
<b>POP3</b>	Post Office Protocol Version 3 (example of MS)	<b>SABI</b>	Secret and Below Initiative
<b>POSIX</b>	Portable Operating System Interface definition	<b>SAG</b>	SQL Access Group
<b>POTS</b>	Plain Old Telephone Service	<b>SATCOM</b>	Satellite Communications
<b>PPBS</b>	Planning Programming Budget System	<b>SBU</b>	Sensitive but Unclassified
<b>PPP</b>	Point to Point Protocol	<b>SCI</b>	Sensitive Compartmented Information
<b>PRI</b>	Private Rate Interface	<b>SCV</b>	Subscriber Capability Value
<b>PSK</b>	Phase Shift Keying	<b>SDD</b>	Secure Data Device
<b>QDR</b>	Quadrennial Defense Review	<b>SDSL</b>	Symmetric Digital Subscriber Line
<b>QoS</b>	Quality of Service	<b>SGML</b>	Standard Generalized Markup Language
<b>RA</b>	Registration Authorities	<b>SHA</b>	Secure Hash Standard
<b>radio-WAN</b>	Radio-based Wide Area Network	<b>SHF</b>	Super High Frequency
<b>RADSL</b>	Rate Adaptive Digital Subscriber Line	<b>SIDR</b>	Secure Intelligence Data Repository
<b>RBOC</b>	Regional Bell Operating Companies	<b>SIPRNET</b>	Secret IP (Internet Protocol) Router Network
<b>RCC</b>	Regional Control Center (now ROSC)	<b>SITE</b>	Shipboard Information, Training and Entertainment
<b>RDA</b>	Remote Data Access	<b>SLIP</b>	Serial Line IP
<b>RDBMS</b>	Relational Database Management Systems	<b>SME</b>	Subject Matter Expert
<b>RDT&amp;E</b>	Research, Development, Test and Evaluation	<b>SMI</b>	Structure of Management Information
<b>RF</b>	Radio Frequency	<b>SMT</b>	Station Management
<b>RFC</b>	Request for Comment	<b>SMTP</b>	Simple Message Transfer Protocol
<b>RIP</b>	Routing Information Protocol	<b>SMWS</b>	System Management Work Station
<b>RITC</b>	Regional Information Technology Center	<b>SNMP</b>	Simple Network Management Protocol
<b>RMA</b>	Reliability, Maintainability, Availability		

<b>SNMPv1</b>	Simple Network Management Protocol, Version 1	<b>TP</b>	Throughput
<b>SNMPv2</b>	Simple Network Management Protocol, Version 2	<b>TP-R</b>	Throughput Rating
<b>SNMPv3</b>	Simple Network Management Protocol, Version 3	<b>TRM</b>	Technical Reference Model
<b>SNTP</b>	Sneaker Net Transfer Protocol	<b>TSAPI</b>	AT&T/Novell Telephony Services API
<b>SOE</b>	Standard Operating Environment	<b>TT</b>	Task time
<b>SONET</b>	Synchronous Optical Network	<b>TTL</b>	Time to Live
<b>SPAWAR</b>	Space and Naval Warfare Systems Command	<b>Tx</b>	Transmit
<b>SPDL</b>	Standard Page Description Language	<b>UARNOC</b>	Unified Atlantic Region Network Operations Center
<b>SPID</b>	ISDN Service Profile Identifiers	<b>UBR</b>	Undefined Bit Rate
<b>SPPTP</b>	Secure Point-to-Point Tunneling Protocol	<b>UDI</b>	Unrestricted Digital Information
<b>SQL</b>	Structured Query Language	<b>UDP</b>	Universal Datagram Protocol
<b>SSA</b>	Software Support Activity	<b>UHF LOS</b>	Ultra High Frequency - Line of Sight
<b>SSC</b>	Software Support Center	<b>UHF</b>	Ultra High Frequency
<b>SSL</b>	Secure Socket Layer	<b>UHF-DAMA</b>	Ultra High Frequency - Demand Assigned Multiple Access
<b>SSN</b>	Submarine (Nuclear)	<b>UJTL</b>	Universal Joint Task List
<b>ST</b>	Snap-twist	<b>UNI</b>	User to Network Interface
<b>STE</b>	Secure terminal Equipment	<b>USCG</b>	US Coast Guard
<b>STEP</b>	Standard Tactical Entry Points	<b>USENET</b>	A global Internet-based bulletin board service
<b>STOW</b>	Synthetic Theater of War (network)	<b>USMC</b>	US Marine Corps
<b>STP</b>	Shielded Twisted Pair	<b>USMTF</b>	United States Message Text Format
<b>STU</b>	Secure Telephone Unit	<b>UT</b>	Link Utility
<b>SUIT</b>	Suitability of the command's information infrastructure	<b>UTP</b>	Unshielded Twisted Pair
<b>TAFIM</b>	Technical Architecture Framework Information Management	<b>UVMap</b>	Urban Vector Map
<b>TAPI</b>	Microsoft/Intel Telephony API	<b>VBR-NRT</b>	Variable Bit Rate - Non Real Time
<b>TAWDS</b>	Tactical Automated Weather Distribution System	<b>VBR-RT</b>	Variable Bit Rate - Real Time
<b>TCC</b>	Total Capability Cost	<b>VIC</b>	Vendor-Independent Calendaring
<b>TCO</b>	Total Cost of Ownership	<b>VIM</b>	Vendor-Independent Messaging
<b>TCP</b>	Transmission Control Protocol	<b>VITD</b>	Vector Product Interim Terrain Data
<b>TDMA</b>	Time Division Multiple Access	<b>ViViD</b>	Voice Video and Data Contract
<b>TEMPEST</b>	Electromagnetic Emissions Susceptibility (not an acronym)	<b>VIKS</b>	Video Information Exchange System
<b>TI</b>	Task Improvement	<b>VLAN</b>	Virtual LAN
<b>TIA</b>	Telecommunications Industry Association	<b>VMap AD</b>	Vector Map Aeronautical Data
<b>TL</b>	Time-Late	<b>VMap</b>	Vector Map
<b>TOG</b>	The Open Group	<b>VOL</b>	Volume
		<b>VPF</b>	Vector Product Format
		<b>VPN</b>	Virtual Private Network

<b>VRML</b>	Virtual Reality Modeling Language	<b>WHEC</b>	High Endurance Coast Guard Cutter
<b>VTC</b>	Video Teleconferencing	<b>WMEC</b>	Medium Endurance Coast Guard Cutter
<b>VTs</b>	Vessel Traffic System	<b>WMO</b>	World Meteorological Organization
<b>WAN</b>	Wide Area Network	<b>WPB</b>	Coast Guard Patrol Boat
<b>WBEM</b>	Web-Based Enterprise Management	<b>WVS+</b>	World Vector Shoreline Plus
<b>WDM</b>	Wave Division Multiplexing	<b>WWW</b>	World Wide Web
<b>WDP</b>	Web Drop and Pickup	<b>XAPIA</b>	X.400 API Association
<b>WGS-84</b>	World Geodetic System 84	<b>XMN</b>	X/Open Systems Management



## Appendix B - Glossary

The official telecommunication glossary for the DON ITSG is Federal Standard 1037C of 1996 which can be found at:

<http://glossary.its.bldrdoc.gov/fs-1037/>

FED STD 1037C is maintained by the U.S. Department of Commerce, National Telecommunications and Information Administration, Institute for Telecommunications Sciences, Boulder, CO. It has over 5800 entries and is a compilation of the following glossary documents.

MIL-STD-188-120, Glossary of Telecommunication Terms (1996)  
FED-STD-1037, Glossary of Telecommunication Terms (1980)  
NTIA-SP 79-14, Fiber Optics Glossary (1979)  
NBS Handbook 140, which became EIA-440A, & IEEE 812, Fiber Optics Glossaries (1979-1980)  
FED-STD-1037A, Glossary of Telecommunication Terms (1986)  
FED-STD-1037B, Glossary of Telecommunication Terms (1991)

To complement FED STD 1037C, the following references also provide glossaries on computer and information processing terms:

<http://www.itsi.disa.mil/glossary.html>

<http://www.ora.com/reference/dictionary>

<http://wombat.doc.ic.ac.uk/foldoc/index.html>

The following terms are particularly germane to the DON ITSG.

- Activity Model** A graphic representation of a business process that exhibits the activities and their interdependencies that make up the business process to any desired level of detail. An activity model reveals the interactions between activities in terms of inputs and outputs while showing the controls placed on each activity and the types of resources assigned to each activity. (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version)
- Accreditation** A certification made by the a designated approval authority that a sites information system meets all required security standards and has authority to operate within the established guidelines.

- Activity Model, (As-Is)** An activity model that portrays how a business process is currently structured. It is used to establish a baseline for subsequent business process improvement actions or programs. (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version)
- Activity Model, (To-Be)** An activity model that results from a business process redesign action or program. The TO-BE model shows how the business process will function after the improvement action is implemented. (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version)
- Architecture** An organized framework consisting of principles, rules, conventions, and standards that serve to guide development and construction activities such that all components of the intended structure will work together to satisfy the ultimate objective of the structure. (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version)
- Architecture** A unified set of rules for developing standard products. I.e. a shared vision. (Chorales, Dimities N. Systems Architecture & Systems Design, McGraw, 1989)
- Appliance** With regard to information technology, any device by which an end user receives, processes, or transmits information on the selected media. Information appliances include computers, telephones, televisions, video teleconferencing equipment and the like. It is also the hardware component that is part of an information appliance suite such as a mouse, keyboard, or video screen. In the three-tiered application architecture, these devices are referred to as “presentation clients”. It includes the hardware, software, and associated peripherals that the operator uses to interface with the system. This includes computer clients, servers, printers, telephones, video teleconferencing (VTC) equipment, and associated software.
- Application** A collection of system components that supports a particular task or function. It includes end-to-end, multi-media communications as well as information management and decision support capability. Distributed computing applications are normally built using a three-tiered architecture consisting of the application server, data server, and presentation clients which may be physically on a single device or on multiple devices connected by a network. Communication applications normally involve a minimum of two communication devices connected by the network.

<b>Application Data Element</b>	A data element used in an automated information system. (An application data element may, or may not, be a standard data element.) (OPNAVINST 9410.6)
<b>Application Server</b>	A server that hosts operational or commercial software applications supporting a network, command or community of interest.
<b>Approved Product</b>	A product that has been certified for use by a competent authority for a particular application or mission and for a specified operational environment.
<b>As-Is Model</b>	A model that represents the current state of the organization modeled, without any specific improvements included. Can be either an ACTIVITY MODEL or RULEMODEL (contrast TO-BE MODEL). (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version)
<b>Attribute</b>	A property or characteristic of an entity. An attribute has a name and a value. Attributes are used to identify and distinguish between entities and to provide descriptions of entities. Attributes are named with singular generic nouns. (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version)
<b>Available Product</b>	A product that meets the requirement.
<b>Basic Network and Information Distribution Services</b>	The very basic network services and the most fundamental applications that all platforms and activities need, independent of their command mission and operating environment. BNIDS include network packet or circuit delivery, domain name service, directory service, electronic mail (e-mail), web service, file storage and transfer, network time service and network news service.
<b>Best Practice</b>	A practice that is considered to be the most effective and efficient.
<b>BNIDS</b>	Basic Network and Information Distribution Services. See above.
<b>Business Rule Model (Data Model)</b>	A graphical representation of an organization's information and data assets expressed in terms of entities and relationships. Relationships are called business rules because they enable or constrain business actions. Rule models, like activity models, have AS-IS and TO-BE representations. (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version)

<b>Certification</b>	A statement attesting an interface has been verified as performing to a specification, standard, or other published document (JTC3A Circular 9002).
<b>Client-Server</b>	Any network-based software system that uses client software to request a specific service, and corresponding server software to provide the service from another computer on the network.
<b>Cognizant Agency</b>	The responsible agency for producing information or data.
<b>Command Correspondence</b>	Information or direction issued by the commanding officer or his designated representative that carries the official intent and authority of the command.
<b>Commercial Applications</b>	Commercial software programs or commercial procured hardware that satisfies a specific purpose.
<b>Computer</b>	An electronic contrivance that solves problems and does complicated calculations by processing data according to prescribed programmed instructions and then produces and/or retains the outcome of these processes.
<b>Control Center</b>	See DII Control Center.
<b>Corporate Information Management (CIM)</b>	The DoD effort to apply computing, telecommunications, and information management capabilities effectively in the accomplishment of the Department mission.
<b>Currency</b>	Regarding information is either time-late for dynamic information, or the elapsed time since validation for static information. Time-late is the time difference between time of the discovery or data creation, and the present time. Elapsed time since validation is the difference between the present time and the last validation time provided by the information producer or manager.
<b>Data</b>	Symbols representing instances, or occurrences, of specific meanings in the real world. (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version)
<b>Data Administration(DAdm)</b>	That function of the organization which oversees the management of data across all functions of the organization, and is responsible for central information planning and control. (NBS Special Pub 500-149)

<b>Data Administrator (DAd)</b>	A person or group that ensure the utility of data used within an organization by defining data policies and standards, planning for the efficient use of data, coordinating data structures among organizational components, performing logical database design, and defining data security procedures. (NBS Special Pub 500-152)
<b>Data Category</b>	All data sets necessary to define a functional category, e.g., sensors. The number of data sets per category is based on specific data file record capabilities.
<b>Data Content</b>	What goes in a data element as defined by the data element definitions and formats.
<b>Data Dictionary</b>	A specialized type of database containing metadata that is managed by a data dictionary system; a repository of information describing the characteristics of data used to design, monitor, document, protect, and control data in information systems and databases; and application of a data dictionary system. (FIPS Special Pub500-152)
<b>Data Element</b>	<p>(1) A named unit of data. It can be used to describe the atomic level of data, whether computerized or manual, as viewed by the user.</p> <p>(2) In database usage, a named identifier of the entities and attributes that are represented in a database. (American National Standards Institute (ANSI) X.3.138-1988 and FIPS Pub 156 Definition)</p> <p>(3) In Joint Service usage, a basic unit of information having a meaning and subcategories (data items) of distinct units and values.</p>
<b>Data Element Standards</b>	The standardization and management of data element definitions, formats, content, and relationships between data elements.
<b>Data File</b>	All data categories which relate to a composite object, e.g., ship, aircraft.
<b>Data Fill</b>	The actual data (or lack of) in the data element fields.
<b>Data Integration</b>	Agreement of data messages between senders and receivers, enforced by business rules. (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version)
<b>Data Merging</b>	Combining data from multiple digitized sources. A prerequisite to computer data merging is the up-front Deconfliction of data element standards and database structure.

<b>Data Model (Business Rule Model)</b>	A graphical representation of an organization's information and data assets expressed in terms of entities and relationships. Relationships are called business rules because they enable or constrain business actions. Data models, like activity models, have AS-IS and TO-BE representations. (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version)
<b>Data Server</b>	A server that hosts a data base management system or information base that supports applications, queries, or reports via a network for a command and/or community of interest.
<b>Data Set</b>	A group of data elements that collectively describe a composite object, e.g., platform, weapon, sensor, installation, or other object.
<b>Data Set Structure</b>	A representation of the logical relationships that exist among the data elements comprising the data set. The data set structure defines unique identifiers within the data set, subordinate relationships, repeating or multi-valued occurrences, and coded or constrained elements.
<b>Data Standard</b>	(also called <b>Standard Data</b> ) A data element that has been through a formal analysis to reach agreement on its name, meaning, and characteristics, as well as its relationship to other standard data elements. Much like a common language, data standards enable processes and their supporting information systems to be integrated across functions, as well as within them, and improve the quality as well as the productivity of enterprise performance.(DEPSECDEF Memo of 13 Oct 1993, "Accelerated Implementation of Migration Systems, Data Standards, and Process Improvement)
<b>Data Standardization</b>	<p>The process of reviewing and documenting the names, meanings, and characteristics of data elements so that all users of the data have a common shared understanding of it.</p> <p>Data standardization is a critical part of the DoD Data Administration Program, managed under DoD Directive 8320.1. Data administration is the function that manages the definition and organization of the Department's data. (DEPSECDEF Memo of 13 Oct. 1993, "Accelerated Implementation of Migration Systems, Data Standards, and Process Improvement)</p>
<b>Data Translation</b>	The computer conversion of one data element format into another format; e.g., truncation of the 30 character ship name field into a 26 character field for use by a hardware and/or software constrained system.

<b>Database</b>	A collection of interrelated data, often with controlled redundancy, organized according to a schema to serve one or more applications; the data are stored so that they can be used by different programs without concern for the data structure or organization. A common approach is used to add new data and to modify and retrieve existing data. (FIPS Special Pub 11-3)
<b>Defense Data Dictionary System (DDDS)</b>	The database administered by the DISA Center for Information Management for managing the submission, review, and approval of DoD standard data elements.)
<b>Defense Information Infrastructure (DII)</b>	<p>The web of communication networks, computers, software, data bases, applications, weapon systems interfaces, data security services, and other services that meet the information processing and transport needs of DOD users across the range of military operations. It encompasses: (1) sustaining base, tactical, DOD-wide, information systems, command, control, communication, computer and intelligence (C4I) interfaces to weapon systems; (2) the physical facilities used to collect, distribute, store, process, and display voice, data and imagery; (3) the applications and data engineering tools, methods and processes to build and maintain the software that allow Command and Control (C2), Intelligence, Surveillance, Reconnaissance, and Mission Support users to access manipulate, organize and digest proliferating quantities of information; (4) the standards and protocols that facilitate interconnection and inter-operation among networks; and (5) the people and assets which provide the integrating design, management and operation of DII, develop the applications and services, construct the facilities and train others in DII capabilities and use. [DODD 5105.19-1991]</p> <p>A seamless web of communications networks, computers, software, databases, applications, and other capabilities that meets the information processing and transport needs of DOD users in peace and in all crises, conflict, humanitarian support, and wartime roles. [DII Master Plan 1.0]</p>
<b>Developmental Data Set</b>	A preliminary data set dealing with reference data from a Functional Database Manager that is still undergoing testing and coordination.
<b>DII Control Center</b>	Center that performs independent and integrated missions supporting communications and information systems. These systems include LAN, MAN, and WAN management, help desks, technical control facilities, facility control offices, and network management centers. Provides essential operational support to the sustainment of the DII. [JDIICC CONOPS]

<b>Draft Data set</b>	A data set derived from the registration of existing Tactical Naval Warfare System databases dealing with dynamic data, e.g., Readiness and Track vice Functional Database Manager provided reference data.
<b>E-mail</b>	An electronic means for communication in which (a) usually text is transmitted, (b) operations include sending, storing, processing, and receiving information, (c) users are allowed to communicate under specified conditions, and (d) messages are held in storage until called for by the addressee.
<b>Enterprise</b>	When used generically, an enterprise is defined as the aggregate of all functional elements participating in a business process improvement action regardless of the organizational structure housing those functional elements. (Note the difference in this definition and that of ENTERPRISE LEVEL. (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version)
<b>Enterprise Level</b>	The Enterprise Level of the CIM Integration Architecture provides the geographic, technological, and managerial platform upon which all information systems development activity is based; it is the foundation that must support all that is built above it in the higher levels. In general, in this document it is synonymous with the entire Department of Defense. (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version)
<b>Entity</b>	An element from the set of real-world objects (people, places, things, events, ideas) with characteristics in common and within the scope of the model. Each entity has a name that is a singular noun or noun phrase describing the object it represents. An entity is represented by a box. (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, electronic Version)
<b>Functional Integration</b>	Integration within the DoD of related and/or redundant business processes, in order to simplify, improve, and economize those processes. (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version)



**Functional Process Improvement** (also called **Business Process Re-engineering**) Application of a structured methodology to define a function's objectives and a strategy for achieving those objectives; its "as-is" and "to-be" process and data environments; its current and future mission needs and end-user requirements; and a program of incremental and evolutionary improvements to processes, data and supporting migration systems that are implemented through functional, technical, and economic analysis and decision making.

Procedures for conducting process improvement reviews and assessments in the DoD are provided in OASD (C4ISR) memoranda on Interim Management Guidance on Functional Process Improvement (August 5, 1992, and January 15, 1993). (DEPSECDEF Memo of 13 Oct. 1993, "Accelerated Implementation of Migration Systems, Data Standards, and Process Improvement")

**Guidance** Any statement of direction or recommendation, not necessarily mandatory.

**Help Desk** The front line interface to the users to resolve any issue associated with information infrastructure-provided services.

**IDEF Modeling Techniques** A combination of graphic and narrative symbols and rules designed to capture the processes and structure of information in an organization. IDEF0 (pronounced IDEF-*zero*) is an activity, or behavior, modeling technique; IDEF1X (pronounced IDEF-*one-X*) is a rule, or data, modeling technique. IDEF modeling techniques were derived from the Integrated Computer Aided Manufacturing (ICAM) program sponsored by the U.S. Air Force. The acronym IDEF (pronounced *eye-deaf*) was formed from the term CAM **D**efinition Languages. (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version)

**Individual Message.** DMS Term. Individual Messaging. Includes working communications between individual DoD personnel with in administrative channels, both internal and external to the specific organizational element, including non-DoD users. Such messages do not generally commit or direct an organization. Individual messages do not require the same level of system management, priority/precedence, or assurance (signature/encryption) as organizational messages.

**Information** Any communication or reception of knowledge such as facts, data, or opinions, including numerical, graphic, or narrative forms, whether oral or maintained in any medium, including computerized databases, paper, microforms, or magnetic tape. (DoDD 8000.1 of 27 October 1992 (NOTAL))

<b>Information Architecture</b>	A database schema of information categories (data sets) containing standardized data elements with designated data sources. The information architecture in the NWTDB Standards Manual is a guide for defining essential elements of information to support operational functionality, and for internal system design to achieve a common relational database. The NWTDB structure is hardware and software independent.
<b>Information Distribution</b>	The ability to move information to all of the intended recipients.
<b>Information Engineering</b>	The translation of certain types of process requirements into software programs. (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version)
<b>Information Management</b>	<p>The creation, use, sharing, and disposition of information as a resource critical to the effective and efficient operation of functional activities. The structuring of functional processes to produce and control the use of data and information within functional activities, information systems, and computing and communications infrastructures. [DODD 8000.1]</p> <p>The treatment of information as an asset to enhance an organization's competitiveness and responsiveness. It results from effectively identifying, collecting, and analyzing information — and then directing it to the points of decision making and customer service.</p>
<b>Information Protection</b>	(Same as Information System Security. The protection of information systems against unauthorized access to or modification of information, whether in storage, processing or transit, and against the denial of service to authorized users or the provision of service to unauthorized users, including those measures necessary to detect, document, and counter such threats.
<b>Information Security</b>	The protection of information against unauthorized disclosure, transfer, modification, or destruction, whether accidental or intentional.
<b>Information System Security</b>	The protection of information systems against unauthorized access to or modification of information, whether in storage, processing or transit, and against the denial of service to authorized users or the provision of service to unauthorized users, including those measures necessary to detect, document, and counter such threats. [NIS]
<b>Information Standards</b>	The standardization of data elements, database structure, message text formats (MTFs), and tactical digital information links (TADILs).

<b>Information System</b>	A system, whether automated or manual, that comprises people, machines, and/or methods organized to collect, process, transmit, and disseminate data that represent user information. (188) 2. Any telecommunications and/or computer related equipment or interconnected system or subsystems of equipment that is used in the acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of voice and/or data, and includes software, firmware, and hardware. [NIS]
<b>Information System Domain</b>	An information infrastructure controlled or managed by a single organizational entity. It normally includes a network, set of clients, servers, multi-media equipment, associated peripherals and network components interconnected and bounded by interfaces to external networks or communication circuits.
<b>Information Technology</b>	The technology included in hardware and software used for Government information, regardless of the technology involved, whether computers, communications, micro-graphics, or others. [OMB Circular A-130 and DODD 8000.1.]
<b>Information Technology Outreach Center</b>	An extension of the Information Technology Service Center (ITSC) where physical presence is required. Provides primarily hardware-related services such as device and cable plant maintenance, component replacement, software distribution and dial-in service. Act as the base “store front” for the ITSC.
<b>Information Technology Service Center</b>	A center that provides comprehensive IM/IT support to a designated zone of the DON IT infrastructure. This includes information system operation, implementation support, and administration for a community of information producers and consumers. The ITSCs would be “Local Control Centers” in full compliance with the Joint Defense Information Infrastructure (DII) Control Centers (CC) Concept of Operations (CONOPS)
	Each ITSC would perform three major duties: <ul style="list-style-type: none"> <li>- Integrated information system implementation, control and maintenance.</li> <li>- Interface information flow from network to network including dial-in service.</li> <li>- Consolidated information/application repository and distribution center for individual commands in the region.</li> </ul>
<b>Information Technology Standards Guidance</b>	A guiding information center that identifies the standards and provides the guidance for applying information technology toward the creation and sustainment of a responsive, and user-friendly, information management environment.

**Information Transfer** The process of moving messages containing user information from a source to a destination (sink). (188) Note: The information transfer rate may or may not be equal to the transmission modulation rate.

**Integration** Explicit top management initiatives to ensure that interdependent functions or systems operate efficiently for the overall benefit of the enterprise(i.e., the DoD). This contrasts with coordination among functions or systems, which ensures non-interference, but does not provide integration.

“Integration” implies seamless, transparent operation based on a shared or commonly-derived architecture (functional or technical) and standard data. “Interoperability” implies only the ability of a function or system to exchange information or services with another, separate function or system using translators or interchange rules/standards. (DEPSECDEF Memo of 13 Oct. 1993, “Accelerated Implementation of Migration Systems, Data Standards, and Process Improvement)

**Interface** A boundary or point common to two or more command and control systems or subsystems, communication systems or equipment, or other entities across which necessary information flow takes place. A joint interface implies that the boundary is shared by two or more services/agencies. A combined interface is shared by entities from one or more U.S. services/ agencies and an allied nation.

(1) **Technical Interface.** A specification of the functional, electrical, and physical characteristics necessary to allow the exchange of information between systems. An Interface Requirements Specification (IRS) is used to specify the functional and physical requirements of an interface between systems; DI-MCCR-80026A pertains. An Interface Design Document (IDD) is used to describe the detailed design of the requirements within the IRS; DI-MCCR-80027A pertains. Warfare System Controlled Interface Documents (WSCIDs) are used to describe functional, physical, and electrical interface characteristics.

(2) **Procedural Interface.** A specification for accomplishing exchange of information across an interface; e.g., OPSPEC 411, OPSPEC 516, OPSPEC OTG. A procedural interface defines:

- (a) The form or format in which information is to be exchanged.
- (b) The prescribed information exchange language, syntax, and vocabulary to be used in the information exchange.
- (c) The operating procedures that govern information exchange.

- Infrastructure** Infrastructure is used with different contextual meanings. Infrastructure most generally relates to and has a hardware orientation but note that it is frequently more comprehensive and includes software and communications. Collectively, the structure must meet the performance requirements of and capacity for data and application requirements. Again note that just citing standards for designing an architecture or infrastructure does not include functional and mission area requirements for performance. Performance requirement metrics must be an inherent part of an overall infrastructure to provide performance interoperability and compatibility. It identifies the top-level design of communications, processing, and operating system software. It describes the performance characteristics needed to meet database and application requirements. It provides a geographic distribution of components to locations. The infrastructure architecture is defined by the service provider for these capabilities. It includes processors, operating systems, service software, and standards profiles that include network diagrams showing communication links with bandwidth, processor locations, and capacities to include hardware builds versus schedule and costs. [DOD 8020.1-M]
- Intelligence** The faculty or ability for comprehending and reasoning with facts, truths, or propositions; intellectual power; knowledge imparted or acquired; the collection of information; information communicated as news or notices. [Webster's]
- Interoperability** The ability of systems, units or forces to provide services to, and accept services from, other systems, units or forces, and to use the services so exchanged to enable them to operate effectively together (JCS Pub 1).
- JINTACCS** **Joint Interoperability of Tactical Command and Control Systems.** The JCS program encompassing approved standards for machine readable bit-oriented TADIL and man/machine readable character oriented MTF messages. (Replaced by USMTF.)

**Key** One or more attributes that may be used to uniquely identify an instance of an entity (as represented by a row in a database table). There are three types of keys:

**Primary Key:** The key chosen as the unique identifier for an entity. This key is migrated through the relationship to become the foreign key in child entities.

**Alternate Key:** A key that could also be used as a unique identifier for an entity, but is not selected for that purpose. For example, the entity EMPLOYEE could be uniquely identified by either SOCIAL-SECURITY-NUMBER or EMPLOYEE-ID-NUMBER. If EMPLOYEE-ID-NUMBER would be designated as the primary key, SOCIAL-SECURITY-NUMBER would be designated as an alternate key. Alternate keys are designated in the model by the notation (AK).

**Foreign Key:** A key in a child entity that is inherited from its parent entity. Only primary keys may migrate (be inherited). The foreign key may or may not become part of the primary key of the child. Each foreign key is designated by the notation (FK). (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version).

**Knowledge** Acquaintance with facts, truths, or principles, as from study or investigation; familiarity or conversance, as with a subject, language, or branch of learning; acquaintance with a thing, place, person, as by sight, experience, or report; the fact or state of knowing; perception of fact or truth; clear and certain mental apprehension; the state of being cognizant or aware. [Webster's]

**Latency** The length of the time interval between an event or stimulus and a response. In the context of IT latency refers to the amount of time it takes from the initiation of a control to the response of a control; or from an information query to the return of information.

**Local Control Center** A DII Control Center that manages CINC, Service, or Agency-unique networks, systems, applications, either deployed or fixed at a base, post, camp, or station. Supports community-of-interest or local assets regardless of its size or geographic dispersion. (JDIICC CONOPS)

**Message Text Format(MTF)** An approved standardized communication method using man/machine readable messages. MTF is characterized by its standardized, character-oriented message formats and transmission characteristics. United States Message Text Formats (USMTF) are JCS approved and mandated for both joint and intra-service usage. U.S. Navy tactical warfare systems also implement Navy-unique MTFs; e.g., OTH-T GOLD.

**Migration System** An existing automated information system (AIS), or a planned and approved AIS, that has been officially designated as the single AIS to support standard processes for a function. Other AISs, called “legacy systems,” that duplicate the support services provided by the migration system are terminated, so that all future AIS development and modernization can be applied to the migration system. A migration system is designated (or selected) by the OSD Principal Staff Assistant(s) and their Defense Component counterparts whose function(s) the system supports, with the coordination of the DoD Senior Information Management Official.

Upon selection and deployment, the migration system becomes the single AIS baseline for:

- Incremental and evolutionary changes that are required to implement functional process improvements, or to execute additional responsibilities assigned to the function that the system supports.
- Technical enhancements that implement standard data and integrated databases, and that migrate the system toward an open systems environment and a standards-based architecture defined by the DoD Technical Architecture Framework for Information Management.

(DEPSECDEF Memo of 13 Oct 1993, “Accelerated Implementation of Migration Systems, Data Standards, and Process Improvement)

**Mission** A primary task, vision, or purpose of an organization or operation.

**Mission Application** An application that supports a particular mission. In the ITSG context it means special support to uniquely military requirements. Analogous to “Operational Application”.

**Model** A representation of a complex, real-world phenomenon such that it can answer questions about the real-world phenomenon within some acceptable and predictable tolerance. (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version)

<b>National Information Infrastructure</b>	<p>A proposed, advanced, seamless web of public and private communications networks, interactive services, interoperable hardware and software, computers, databases, and consumer electronics to put vast amounts of information at users' fingertips. Note: NII includes more than just the physical facilities (more than the cameras, scanners, keyboards, telephones, fax machines, computers, switches, compact disks, video and audio tape, cable, wire, satellites, optical fiber transmission lines, microwave nets, switches, televisions, monitors, and printers) used to transmit, store, process, and display voice, data, and images; it encompasses a wide range of interactive functions, user-tailored services, and multimedia databases that are interconnected in a technology-neutral manner that will favor no one industry over any other. Synonym: "Information Superhighway". [FS 1037C]</p>
<b>Naval Warfare Tactical Database (NWTDB)</b>	<p>(1) The management process to evolve to the common tactical database that supports Naval, Joint, and Combined operations.</p> <p>(2) The authoritative tactical database, or subsets thereof, distributed by designated producers in accordance with the information architecture contained in the functional volumes which comprise the NWTDB Standards Manual.</p>
<b>Network</b>	<p>The set of switching and transmission subsystem communication components to support information transfer. The network includes all hardware and software communication components residing in switching, routing, and transmission subsystem components, as well as communication-related hardware and software and those components that reside in hosts (e.g., communication protocols). The network also includes the organization and configuration of embedded hardware and software to support orderly and logical information distribution.</p>
<b>Network Centric</b>	<p>A systems engineering concept where end systems are attached to a shared network rather than directly to each other.</p>
<b>Network Centric Warfare</b>	<p>A warfighting and deterrence concept that takes advantage of a shared network to exchange information and provide direction thereby increasing speed of command and reducing observe-orient-decide-act (OODA) cycle.</p> <p>Network centric warfare includes network centric systems engineering concepts but also several other components such as force structure and doctrine. Only the network centric systems engineering concept is within the scope of the ITSG.</p>
<b>Network Information Center</b>	<p>The Network Information Center (NIC) registers hosts and domains, assigns IP network numbers and Autonomous System Numbers for network entities, and provides domain name system server files to the network community.</p>



<b>Network Management Center</b>	A central location for network management. It functions as a control center for network control monitoring, analysis and accounting. A management center can contain a Network Information Center as well as a Network Operating Center.
<b>Network Monitoring Center</b>	A central location for network management. It functions as a control center for network monitoring, analysis and accounting.
<b>Network Operations Center</b>	A central location for network management. It functions as a control center for network control monitoring, analysis and accounting.
<b>Node</b>	1. In network topology, a terminal of any branch of a network or an interconnection common to two or more branches of a network. (188) Synonyms junction point, nodal point. 2. In a switched network, one of the switches forming the network backbone. Note: A node may also include patching and control facilities. (188) 3. A technical control facility (TCF). (188)
<b>Normalization</b>	A set of tests that ensure stable groupings of ATTRIBUTES (by housing them in the appropriate ENTITIES) and their relationships. This “quality control test” against a FULLY-ATTRIBUTED RULE MODEL eliminates data redundancy and allows it to be readily extensible as new data are discovered. (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version)
<b>Open System</b>	One that consists of modular, multi-vendor interoperable building blocks that are assembled into functional units.
<b>Operational Applications</b>	An application that supports a particular operation or mission. Normally military unique. Analogous to “Mission Application”.
<b>Operational Environment</b>	The physical condition which surrounds or contains a military platform while conducting operations.
<b>Operational Specification(OPSPEC)</b>	A U.S. Navy specification for a Navy procedural interface.

<b>Organizational Message</b>	Message for command correspondence within DMS. Organizational Messaging. Includes messages and other communications exchanged between organizational elements in support of command and control, combat support, combat service support, and other functional activities. Typically these messages provide formal direction, establish a formal position, commitment, or response for the organization. Organizational messages require approval for transmission by designated officials of the sending organization and determination of internal distribution by the receiving organization. Because of their official and sometimes critical nature, such messages impose operational requirements on the communications systems for capabilities such as precedence, timely delivery, and high availability and reliability. Organizational messages must be signed in order to provide proof of participation and audit/trace capability.
<b>OTH-T GOLD (OTG)</b>	Over-the-Horizon Targeting GOLD, a CNO approved man/machine readable character oriented message standard for information exchange between tactical systems.
<b>Peripheral</b>	(Peripheral Equipment): In a data processing system, any equipment, distinct from the central processing unit, that may provide the system with additional capabilities. Note: Such equipment is often offline until needed for a specific purpose and may, in some cases, be shared among several users. [FS 1037C]
<b>Policy</b>	A standing set of general principles or guidelines on a topic deemed to be mandatory.
<b>Practice</b>	A way of doing something.
<b>Product</b>	A service or the end result of a service which can be a change in state, a physical item, a desired tool or stimulus.
<b>Recommendation</b>	Guidance, not mandatory, that if followed should produce the desired result.
<b>Reference Data</b>	Data used to amplify or clarify a tactical data set. e.g., organizational names or airframe dimensions.
<b>Requirement</b>	Something that is needed, normally to complete or enhance mission capability
<b>Risk</b>	Exposure to the chance of an adverse occurrence.
<b>Risk Avoidance</b>	Minimizing the exposure to adverse occurrences.

- Risk Management** The act of balancing risk that is inherent in the operational environment with activities that must occur to accomplish a mission. The exposure to adversity normally conflicts with the need to complete a mission, particularly in the military context.
- Recommendation** Guidance provided to assist one in performing a task or completing a mission.
- Rule Model** The result of applying the rule modeling technique. It is a graphic or structured narrative representation of the data meanings and business rules in an organization. The model is represented in IDEF1X by a set of graphic diagrams that represent classes of real or abstract objects, their attributes, and their relationships to one another. Rule model diagrams are refined with three different levels of detail: The ENTITY-RELATIONSHIP LEVEL, the KEY-BASED LEVEL, and the FULLYATTRIBUTED LEVEL. The model includes a GLOSSARY and BUSINESS STATEMENTS or rules.
- Rule Model Levels** There are three levels of rule model refinement: Entity-Relationship, Key-Based, and Fully Attributed.
- Entity-Relationship Model:** This diagram is the least refined. It shows entities and their relationships. The relationships at this level may be nonspecific. You may add attributes at this level if they are known, but it is not required to do so.
- Key-Based Model:** This diagram starts with the E-R diagram and eliminates any nonspecific relationships by adding an associative or intersection entity. Keys are added to the entities and migrated. You may add any known non-key attributes at this level, but it is not required to do so.
- Fully Attributed Model:** This diagram starts with the key-based model and adds the non-key attributes. Several tests are applied to the model to ensure that it is in third normal form. (Corporate Information Management Process Improvement Methodology for DoD Functional Managers, 2d Edition, Electronic Version)
- Server** Computers, including workstations and mainframes, that provide information services to a network.
- Service Desk** The front line outreach center to minimize disruption to user operations during system upgrades and configurations changes. The Service Desk supports change control, coordination, approval, and implementation.

<b>Specification</b>	<p>A well defined, well described design, protocol, or practice.</p> <p>A document prepared to support acquisition that describes the essential technical requirements for purchased material and the criteria for determining whether the requirements are met. [DOD 4120.3-M]</p>
<b>Standard</b>	<p>A selected and approved specification or set of specifications by an authoritative body.</p> <p>A document that establishes uniform engineering and technical requirements for processes, procedures, practices, and methods. Standards may also establish requirements for selection, application, and design criteria of material. [DOD 4120.3-M]</p>
<b>System Architecture</b>	A set of interconnected elements constituted to achieve a given objective by performing specified functions. (IEEE Dictionary)
<b>Tactical Data</b>	Data used in direct support of tactical decision making or in support system functions that provide options or recommendations to decision makers. Examples include speed of platforms, operating parameters of systems, enemy capabilities, etc.
<b>Tactical Digital Information Link (TADIL)</b>	A JCS approved standardized communications link suitable for transmission of machine only readable information. A TADIL is characterized by its standardized, bit-oriented message formats and transmission characteristics.
<b>Tactical Information Interoperability</b>	The ability of tactical Naval warfare systems to use approved joint and Navy information standards, especially Joint Interoperability of Tactical Command and Control Systems (JINTACCS), Naval Warfare Tactical Database (NWTDB), and/or OTH-T GOLD formats.
<b>Tactical Naval Warfare System</b>	Any C4ISR or combat system that supports Naval warfare.
<b>Time-Late</b>	The time difference between time of the discovery or data creation, and the present time.
<b>Teleconference</b>	The live exchange of information among persons and machines remote from one another but linked by a telecommunications system. Note: The telecommunications system may support the teleconference by providing audio, video, and data services by one or more means, such as telephone, telegraph, teletype, radio, and television. (188)

- Understanding** The ability or power to acquire and interpret knowledge; comprehension; intelligence; mental faculties or power of discernment; personal interpretation; knowledge of a particular field; ability to cope or deal with something;
- USMTF** United States Message Text Format An approved standardized communication method using man/machine readable messages. MTF is characterized by its standardized, character-oriented message formats and transmission characteristics.
- Wisdom** The faculty to discern right and truth and to judge or act accordingly; sound judgment, sagacity, discretion, common sense, extensive knowledge. [Webster's]



# Appendix C - Selected Guidance Justification

This appendix provides the supporting rationale for not selecting or using the IT products that are listed in the ITSG as “Not Recommended.” It also provides rationale for choosing a particular product or limiting standard – referred to in this Appendix as “Preferred Product.”

The specific guidance used in selecting standards (and products) is that they should meet the following criteria: (1) security, (2) interoperability, (3) functionality, (4) performance, and (5) business factors such as cost and market availability. Products are either “Not Recommended” or selected as “Preferred Products” based on this criteria.

**Security.** Information protection involves both system security and information security. Selected standards must support the ability to provide both system and information security.

**Functionality.** Standards and guidance must support the fundamental requirement to ensure that IM/IT systems effectively and efficiently support the operational mission/requirements.

**Interoperability.** Applications and computers from different suppliers will have the capability to work together on a network and to connect and share data and processes as appropriate. The model that the standards in this document follow is one that allows end systems to attach to any point on an internetwork. (End systems include clients, servers, and sensors that produce or consume information.)

**Performance.** The degree of quality that a particular standard or guidance provides in selecting IM/IT products or services.

**Business.** Implementation cost and market acceptance of the standard or guidance is also a selection factor. Market acceptance is judged more on market momentum than on current market share. A dominant product may actually be losing market share, while an emerging product or standard may be rapidly increasing its share. By including market acceptance as one of the selection criteria, we obtain a balance in theoretical versus practical value as based on the market conclusions regarding technology, functionality and value.

## Chapter 3: Information Protection

Table 3-2: Zone 4 VPN Implementations

Not Recommended:	Proprietary VPN products			
Security	Functionality	Interoperability	Performance	Business
●		●		

Rationale: Limited interoperability, multi-vendor interoperability is a problem. It is generally more difficult to assess the security properties of proprietary products because the details of their interfaces, design, and operation are known only to the vendor. To assess the security properties requires a potentially expensive and lengthy evaluation.

Table 3-7: Operating System Security

Not Recommended:	<b>Windows 3.1</b>			
Security	Functionality	Interoperability	Performance	Business
●	●	●		

Rationale: No NSA C2 security features. Does not adequately perform identification, authentication, and access control in multi-user/networked environment. Systems that are primarily single user with limited networking capability may consider non-C2 OSs when C2 alternatives are not adequate, e.g., laptops. Limited interoperability, no built in TCP/IP protocol suite.

Preferred Product:	<b>Windows NT</b>			
Security	Functionality	Interoperability	Performance	Business
	■	■	■	■

Rationale: Product of choice in approximately 99 percent of DON PCs and 78 percent of world PCs. Provides satisfactory interoperability, functionality and performance. Provides strong justification for supportability/business because of commonality.

Not Recommended:	<b>MS-DOS</b>			
Security	Functionality	Interoperability	Performance	Business
●	●	●		

Rationale: No NSA C2 security features. Does not adequately perform identification, authentication, and access control in multi-user/networked environment. Systems that are primarily single user with limited networking may consider non-C2 OSs when C2 alternatives are not adequate, e.g., laptops. Limited interoperability, no built in TCP/IP protocol suite.

Table 3-8: Data at Rest Encryption

Not Recommended:	<b>Products with proprietary algorithms</b>			
Security	Functionality	Interoperability	Performance	Business
●			●	

Rationale: Administration difficulty in instances of transferred personnel or casualties. It is generally more difficult to assess the security properties of proprietary products due to the fact that the details of their interfaces, design, and operation are known only to the vendor. To assess the security properties requires a potentially expensive and lengthy evaluation.

## Chapter 4: Facility and Environmental Requirements

None

## Chapter 5: Information Transfer

Table 5.2: Personal Workstation Operating Systems

Not Recommended:	<b>ARCnet</b>			
Security	Functionality	Interoperability	Performance	Business
	●	●	●	●

Rationale: Not routable, item cannot span routers and edge devices well, and is limited to a physical LAN. Not scalable, the item solves a niche market. Limited interoperability, the item



may solve a short term problem but will lead to interoperability problems. Low performance, the item has limited performance characteristics, and may not work in certain areas. Not commercially viable, the item is old, no longer supported and viewed as out-dated by industry practice. Limited mission market acceptance, the item may be widespread in certain markets but not in the DON mission areas.

Not Recommended:	100VG AnyLAN			
Security	Functionality	Interoperability	Performance	Business
	●	●		●

Rationale: Not scalable, the item solves a niche market. Limited interoperability, the item may solve a short term problem but will lead to interoperability problems. Not commercially viable, the item is old, no longer supported and viewed as out-dated by industry practice. Limited mission market acceptance, the item may be widespread in certain markets but not in the DON mission areas.

Not Recommended:	Token Ring			
Security	Functionality	Interoperability	Performance	Business
	●		●	●

Rationale: Not scalable, the item solves a niche market (which would lead to a lack of interoperability). Low performance, the item has limited performance characteristics, and may not work in certain areas. Limited mission market acceptance, the item may be widespread in certain markets but not in the DON mission areas.

Not Recommended:	AppleTalk			
Security	Functionality	Interoperability	Performance	Business
	●	●	●	●

Rationale: Not routable with Open Shortest Path First/Border Gateway Protocol (OSPF/BGP). Not scalable, the item solves a niche market. Low performance, the item has limited performance characteristics, and may not work in certain areas. Limited interoperability, the item may solve a short term problem but will lead to interoperability problems. Not commercially viable, the item is old, no longer supported and viewed as out-dated by industry practice. Limited mission market acceptance, the item may be widespread in certain markets but not in the DON mission areas.

Not Recommended:	SNA/APPN			
Security	Functionality	Interoperability	Performance	Business
	●	●		●

Rationale: Not routable with Open Shortest Path First/Border Gateway Protocol (OSPF/BGP). Limited interoperability, the item may solve a short term problem but will lead to interoperability problems. Limited mission market acceptance, the item may be widespread in certain markets but not in the DON mission areas.

Not Recommended:	Novell IPX			
Security	Functionality	Interoperability	Performance	Business
	●	●		●

Rationale: Not routable with Open Shortest Path First/Border Gateway Protocol (OSPF/BGP). Not scalable, the item solves a niche market. Limited interoperability, the item may solve a short term problem but will lead to interoperability problems. Limited mission market acceptance, the item may be widespread in certain markets but not in the DON mission areas.

Not Recommended:	NetBEUI			
Security	Functionality	Interoperability	Performance	Business
	●	●		●

Rationale: Not routable with Open Shortest Path First/Border Gateway Protocol (OSPF/BGP). Not scalable, the item solves a niche market. Limited interoperability, the item may solve a specific problem but create interoperability problems. Limited mission market acceptance, the item may be widespread in certain markets but not in the DON mission areas.

Not Recommended:	Banyan VINES			
Security	Functionality	Interoperability	Performance	Business
	●	●		●

Rationale: Interoperability, VINES version of IP requires special interfaces to make interoperable with IAB Internet Protocol; may not work in other IP environments. Limited market acceptance, and long term supportability make cost of ownership unattractive.

Not Recommended:	DecNET/LAT			
Security	Functionality	Interoperability	Performance	Business
	●	●		●

Rationale: Not routable with Open Shortest Path First/Border Gateway Protocol (OSPF/BGP). Not scalable, the item solves a niche market. Limited interoperability, the item may solve a specific problem but will lead to interoperability problems. Not commercially viable, the item is old, no longer supported and viewed as out-dated by industry practice. Limited mission market acceptance, the item may be widespread in certain markets but not in the DON mission areas.

Not Recommended:	OpenAir 2.4 Wireless			
Security	Functionality	Interoperability	Performance	Business
●	●	●		●

Rationale: This product is not IEEE 802.11 compliant but based upon a proprietary specification. This presents open system and long term supportability problems.

Not Recommended:	ETS 300 653			
Security	Functionality	Interoperability	Performance	Business
	●	●	●	

Rationale: This product is not IEEE 802.11 compliant but based upon European specification that results in inadequate frequency band availability due to FCC restrictions. This product will be reevaluated when this is resolved.

Not Recommended:	HIPERLAN Wireless			
Security	Functionality	Interoperability	Performance	Business
	●	●	●	

Rationale: This product is not IEEE 802.11 compliant but based upon European specification that results in inadequate frequency band availability due to FCC restrictions. This product will be reevaluated when this is resolved.

Table 5.3: Physical and Data Link for WANs

Not Recommended:	Commercial Internet Service Providers			
Security	Functionality	Interoperability	Performance	Business
●				

Rationale: Not secure, lack of control by DoD, limited Virtual Private Network support. DON IT architecture will keep this functionality in-house.

Not Recommended:	OpenAir2.4 Wireless			
Security	Functionality	Interoperability	Performance	Business
●	●	●		●

Rationale: This product is not IEEE 802.11 compliant but based upon a proprietary specification. This presents open system and long term supportability problems.

**Table 5-6: Network and Transport Layer**

Not Recommended:	Novell IPX			
Security	Functionality	Interoperability	Performance	Business
	●	●	●	●

Rationale: Not scalable, the item solves a niche market. Limited interoperability, the item may meet a short term requirement but will lead to interoperability problems. Because of DON dependence on radio WANs and their limited bandwidth, operational requirements necessitate limiting the number of routing protocols. Not routable with Open Shortest Path First/Border Gateway Protocol (OSPF/BGP). (We have chosen OSPF/BGP as the sole gateway protocol based on JTA; protocol suites that cannot operate within that routing information framework should be avoided.) Limited mission market acceptance, the item may be widespread in certain markets but not in the mission areas that the DON needs to work in.

Not Recommended:	Banyan VINES			
Security	Functionality	Interoperability	Performance	Business
	●	●	●	●

Rationale: Interoperability, VINES version of IP requires special interfaces to make interoperable with IAB Internet Protocol; may not work in other IP environments. Limited market acceptance, and long term supportability make cost of ownership unattractive. Because of DON dependence on radio WANs and their limited bandwidth, operational requirements necessitate limiting the number of routing protocols. Not routable with Open Shortest Path First/Border Gateway Protocol (OSPF/BGP). (We have chosen OSPF/BGP as the sole gateway protocol based on JTA; protocol suites that cannot operate within that routing information framework should be avoided.)

**Table 5-7: Network Routing Protocols**

Not Recommended:	<b>IPNetBEUI</b>			
Security	Functionality	Interoperability	Performance	Business
	●			●

Rationale: Not routable with Open Shortest Path First/Border Gateway Protocol (OSPF/BGP). Not scalable, the item solves a niche market (which would lead to a lack of interoperability). Limited mission market acceptance, the item may be widespread in certain markets but not in the DON mission areas.

Not Recommended:	<b>LAT</b>			
Security	Functionality	Interoperability	Performance	Business
	●	●		●

Rationale: Not routable, item cannot span routers and edge devices well, and is limited to a physical LAN. Not scalable, the item solves a niche market. Limited interoperability, the item may solve a short term problem but will lead to interoperability problems. Not commercially viable, the item is old, no longer supported and viewed as out-dated by industry practice. Limited mission market acceptance, the item may be widespread in certain markets but not in the DON mission areas.

Not Recommended:	<b>IGRP</b>			
Security	Functionality	Interoperability	Performance	Business
	●			●

Rationale: Vendor proprietary protocol, we have chosen Open Shortest Path First/Border Gateway Protocol (OSPF/BGP) instead. Not scalable, the item solves a niche market (which would lead to a lack of interoperability) and is not a scalable solution. Not commercially viable, the item is old, no longer supported and viewed as out-dated by industry practice. Limited mission market acceptance, the item may be widespread in certain markets but not in the DON mission areas.

Not Recommended:	<b>RIP</b>			
Security	Functionality	Interoperability	Performance	Business
●	●		●	●

Rationale: Routing Information Protocol (RIP) is not a scalable solution. Version 1 lacks authentication and version 2 is not as efficient as OSPF. Affordability is major issue.

## Chapter 6: Information Distribution

**Table 6-11: Web Client**

Preferred Product:	<b>Java</b>			
Security	Functionality	Interoperability	Performance	Business
■	■	■	■	■

Rationale: Provides server level protection not afforded by Active X. Provides open systems basis for interoperable application solutions. Functionality of Java products is revolutionizing

information management. Market acceptance provides widespread use in markets that the DON needs to work in.

## Chapter 7: Computing Resource

Table 7-12: Personal Workstation Operating Systems

Not Recommended:	MS Windows 3.1 and older			
Security	Functionality	Interoperability	Performance	Business
●	●			●

Rationale: No TCP/IP except through third parties. Does not have NSA C2 certification. Replaced by more robust product. Not commercially viable, the item is old, no longer supported and viewed as out-dated by industry practice. No NSA C2 security features.

Not Recommended:	OS/2			
Security	Functionality	Interoperability	Performance	Business
●				●

Rationale: Limited mission market acceptance, the item may be widespread in certain markets but not in the DON mission areas. Supportability, increasing the number of DON products supported proportionally increases cost of ownership. No NSA C2 security features.

Not Recommended:	MacOS			
Security	Functionality	Interoperability	Performance	Business
●	●			●

Rationale: Limited mission market acceptance, the item may be widespread in certain markets but not in the DON mission areas. Supportability, increasing the number of products supported proportionally increases cost of ownership. Not functional on the desktop PC in use by majority of DON organizations. No NSA C2 security features.

Preferred Product:	Windows NT			
Security	Functionality	Interoperability	Performance	Business
●	●	●	●	●

Rationale: Both NT and UNIX are DoD COE compliant; NT and some UNIX are NSA C2 certified; only NT is DMS compliant; therefore, DON has selected NT as the preferred product. DON has determined to have a single homogeneous client for supportability, and reduced life cycle costs. Supports interoperability both in Navy and Marine Corps because of numbers purchased in last 18 months vis-à-vis all other OS products, and likewise reduces supportability costs because of reduced numbers of products

Preferred Product:	Windows 95			
Security	Functionality	Interoperability	Performance	Business
		●		●

Rationale: Supports interoperability both in Navy and Marine Corps and across DoD because of consumer acceptance based on numbers of items being purchased in last 12 months vis-a-vis all other OS products. Economically viable because of reduced life cycle cost associated with system support.

Table 7-13: Server Operating Systems

Not Recommended:	<b>NetWare 3.x or less</b>			
Security	Functionality	Interoperability	Performance	Business
	●	●		

Rationale: Limited interoperability, no built in TCP/IP protocol suite, replaced by new version. Limited mission market acceptance, the item may be widespread in certain markets but not in the DON mission areas. Supportability, increasing the number of products supported proportionally increases cost of ownership.

Not Recommended:	<b>Banyan VINES</b>			
Security	Functionality	Interoperability	Performance	Business
	●			●

Rationale: Limited interoperability, no built in TCP/IP protocol suite. Supportability, increasing the number of products supported proportionally increases cost of ownership.

## Chapter 8: Information Management

None

## Chapter 9: Applications

None

## Chapter 10: Enterprise Management

None

# Appendix D - Supporting IT Contracts

Selected products (preferred products) have appeared in the ITSG “Recommended Implementation” timelines and are also addressed in Appendix C – Selected Guidance Justification (along with the “Not Recommended” products). Appendix D – Supporting IT Contracts, contains a list of available, competitively awarded contracts by which these preferred products can be obtained. Additional information and updates to this appendix may be obtained from the Information Technology Electronic Commerce (ITEC) Direct link under the DON CIO web page <http://www.itec-direct.navy.mil>.

This appendix is arranged by contract vehicle, point of contact (where available), contract line item, and description. Where links are available directly to the vehicle, they are provided.

## Summary of Contents:

- TAC Joint Workstations
- TAC Notebook
- TAC PC
- PC-LAN+
- SUPERMINI
- DBM
- CAD-2 NAVFAC (IM/FCAD2)
- CAD-2 NAVAIR/SPAWAR
- CAD-2 NAVSEA
- NTOPS
- FISC Philadelphia
- ViViD

TAC Joint Workstations  
Vehicle: N68939-97-A-0013  
Silicon Graphics  
POC: Doug Romig (619) 553-4086  
CLIN/BLIN: AC-SW013

Description: Cosmo Code Java Development Environment for 5.3, 6.2, and 6.3 node-lock single user. The Cosmo Code development environment provides tools to create Java applets, applications and packages interactively, compile and manage projects, and debug and browse programs.

TAC Notebook

Vehicle: N68939-96-A-0002

McBride

POC: Doug Romig (619) 553-4086

<http://itec-direct.navy.mil/mcb-nb.html>

CLIN/BLIN: U1303

Description: Site License Fee for Windows 95 Endpoint (Part # OGM-W95)

CLIN/BLIN: U1304

Description: One-time software upgrade fee for out-of-support customers running: Windows NT (Part # OGM-WNT-SWF)

CLIN/BLIN: U1190

Description: Site License Fee for Windows NT Endpoint (Part # OGM-WNT)

TAC PC

Vehicle: N68939-96-A-0006

GTSI

POC: Doug Romig (619) 553-4086

CLIN/BLIN: 3493-123424

Description: Windows 95 Version Upgrade. Windows 95 Version Upgrade from Windows 3.x and Windows for WorkGroups 3.0x. (Part # 050-050-95VL)

CLIN/BLIN: 3493-123538

Description: Windows NT Client Access. Windows NT Client Access 4.0 – English; License (Part # 2272075V40VL)

CLIN/BLIN: 3493-123541

Description: Windows NT Server. Windows NT Server 4.0 – English; License (Part # 2273275V40VL)

CLIN/BLIN: 3493-123533

Description: Windows NT Workstation. Windows NT Workstation 4.0 – English; Upgrade from Windows NT 3.x (Part # 236-274-40VL)

PC-LAN+

Vehicle: N68939-95-D-0018

EDS

POC: Christa LeBoeuf (619) 524-7599

<http://www.eds-ms.com/pclhome.htm>

Note: The Contractor provides a one-year warranty for all software provided under this contract. During the warranty period, all updates, upgrades, and new releases (accepted by the Contracting Officer) shall be provided at no additional charge.

CLIN/BLIN: 1000AA

Description: MS Windows NT Server 4.0 100 User License



- Media-CD-ROM.
- Includes TCP/IP services, NetWare services, OS/2 services, Macintosh services, and Remote Access service,
- Bundled with Windows NT Resource Kit
- NT Clients: 100 users in an combo of NetBIOS, RAS, RCP/IP, Windows (NetBIOS, TCP/IP,IPX), WFW (NetBIOS, TCP/IP,IPX), DOS (NetBIOS, TCP/IP,IPX), Novell Client (IPX, TCP/IP), Pathworks Client (NetBIOS), LAN Manager, LAN Manager OS/2, Banyan (Vines and NetBIOS) Note for 1000AA/1000AB: The Client Redirector Software, LAN Manager for MS-DOS v2.2c and Network Client v3.0 for MS-DOS are provided free on CD-ROM. Also provided on CD-ROM is Windows for Workgroup 3.11 code only (purchase license under SCLIN 1130AA).

CLIN/BLIN: 1000BA

Description: MS Windows NT Server 4.0 50 User License

- Media - CD-ROM
- Includes TCP/IP services, NetWare services, OS/2 services, Macintosh services, and Remote Access service,
- Bundled with Windows NT Resource Kit
- NT Clients: 50 users in an combo of NetBIOS, RAS, RCP/IP, Windows (NetBIOS, TCP/IP,IPX), WFW (NetBIOS, TCP/IP,IPX), DOS (NetBIOS, TCP/IP,IPX), Novell Client (IPX, TCP/IP), Pathworks Client (NetBIOS), LAN Manager, Lan Manager OS/2, Banyan (Vines and NetBIOS) Note for 1000AA/1000AB: The Client Redirector Software, LAN Manager for MS-DOS v2.2c and Network Client v3.0 for MS-DOS are provided free on CD-ROM. Also provided on CD-ROM is Windows for Workgroup 3.11 code only (purchase license under SCLIN 1130AA).

CLIN/BLIN: 1000CA

Description: MS Windows NT Server 4.0 25 User License

- Media - CD-ROM
- Includes TCP/IP services, NetWare services, OS/2 services, Macintosh services, and Remote Access service,
- Bundled with Windows NT Resource Kit
- NT Clients: 25 users in an combo of NetBIOS, RAS, RCP/IP, Windows (NetBIOS, TCP/IP,IPX), WFW (NetBIOS, TCP/IP,IPX), DOS (NetBIOS, TCP/IP,IPX), Novell Client (IPX, TCP/IP), Pathworks Client (NetBIOS), LAN Manager, LAN Manager OS/2,

Banyan (Vines and NetBIOS) Note for 1000AA/1000AB: The Client Redirector Software, LAN Manager for MS-DOS v2.2c and Network Client v3.0 for MS-DOS are provided free on CD-ROM. Also provided on CD-ROM is Windows for Workgroup 3.11 code only (purchase license under SCLIN 1130AA).

CLIN/BLIN: 1000DA

Description: MS Windows NT Server 4.0 250 User

- Media - CD-ROM.
- Includes TCP/IP services, NetWare services, OS/2 services, Macintosh services, and Remote Access service,
- Bundled with Windows NT Resource Kit
- NT Clients: 250 users in an combo of NetBIOS, RAS, RCP/IP, Windows (NetBIOS, TCP/IP, IPX), WFW (NetBIOS, TCP/IP, IPX), DOS (NetBIOS, TCP/IP, IPX), Novell Client (IPX, TCP/IP), Pathworks Client (NetBIOS), LAN Manager, Lan Manager OS/2, Banyan (Vines and NetBIOS) Note for 1000AA/1000AB: The Client Redirector Software, LAN Manager for MS-DOS v2.2c and Network Client v3.0 for MS-DOS are provided free on CD-ROM. Also provided on CD-ROM is Windows for Workgroup 3.11 code only (purchase license under SCLIN 1130AA).

CLIN/BLIN: 1002AA

Description: MS Windows NT Workstation 4.0 – full pkg., Single User License. Includes one set of documentation, one CD-ROM, one set of Start Up Diskettes, and a single user license

CLIN/BLIN: 1002AB

Description: MS Windows NT Workstation 4.0 – full pkg., 100 Users License. Includes one set of documentation, one CD-ROM, one set of Start Up Diskettes, and 100 users license

CLIN/BLIN: 1002AC

Description: MS Windows NT Workstation 4.0 – full pkg., 50 Users License. Includes one set of documentation, one CD-ROM, one set of Start Up Diskettes, and 50 users license

CLIN/BLIN: 1002AD

Description: MS Windows NT Workstation 4.0 – full pkg., 25 Users License. Includes one set of documentation, one CD-ROM, one set of Start Up Diskettes, and 25 users license

CLIN/BLIN: 1002AE

Description: MS Windows NT Workstation 4.0 – full pkg., 1000 Users License. Includes one set of documentation, one CD-ROM, one set of Start Up Diskettes, and 1,000 users license

CLIN/BLIN: 1002AF

Description: MS Windows NT Workstation 4.0 – full pkg., 2500 Users License. Includes one set of documentation, one CD-ROM, one set of Start Up Diskettes, and 2,500 users license

CLIN/BLIN: 1002BA

Description: MS Windows NT Client Access 4.0, English, 1-50 users. Windows NT Client Access 4.0 - English, 1-50 users, license only, for clients that operate on NT Server network, use this price for each user

CLIN/BLIN: 1002BB

Description: MS Windows NT Client Access 4.0, English, 51-100 users Windows NT Client Access 4.0 - English, 51-100 users, license only, for clients that operate on NT Server network, use this price for each user

CLIN/BLIN: 1002BC

Description: MS Windows NT Client Access 4.0, English, 101-250 users. Windows NT Client Access 4.0 - English, 101-250 users, license only, for clients that operate on NT Server network, use this price for each user

CLIN/BLIN: 1002BD

Description: MS Windows NT Client Access 4.0, English, 251-500 users. Windows NT Client Access 4.0 - English, 251-500 users, license only, for clients that operate on NT Server network, use this price for each user

CLIN/BLIN: 1002BE

Description: MS Windows NT Client Access 4.0, English, 501-1000 users. Windows NT Client Access 4.0 - English, 501-1000 users, license only, for clients that operate on NT Server network, use this price for each user.

CLIN/BLIN: 1002BF

Description: MS Windows NT Client Access 4.0, English, 1001+ users. Windows NT Client Access 4.0 - English, 1000+ users, license only, for clients that operate on NT Server network, use this price for each user.

CLIN/BLIN: 1002BG

Description: MS Windows NT Client Access License Version Upgrade 4.0. Windows NT Client Access License Version Upgrade 4.0, no maintenance, use this price for each user, quantity one and above.

Java – Proposal under evaluation

JavaScript – Proposal under evaluation

SUPERMINI

Vehicle: F19630-93-D-0001

LITTON/PRC

POC: Lyn Purvis (619) 524-7541

<http://eagle.is.prc.com/smp/index.htm>

CLIN/BLIN: 1010AA

Description: MS Windows NT Server OS. An integrated server software and operating system for symmetrical, multiprocessor workstations. Requires a minimum of one CLIN 1010AB.

CLIN/BLIN: 1010AB

Description: MS Windows NT 16-User License. A 16-User license for client access of NT Server OS. Requires the purchase of CLIN 1010AA.

DBM

Vehicle: F19628-93-D-0018

TMA

POC: Brian Wolstencroft (619) 524-7539

CLIN/BLIN: 1007BF

Description: MS Windows NT Server V4.x Operating System with 5 Clients

Part # 227-00028

Price is for Unit Perpetual License Fee

CLIN/BLIN: 2007BF - Unit Monthly Maintenance

CLIN/BLIN: 1007BG

Description: MS Windows NT Server V4.x Operating System with 10 Server v4.x Client Licenses

Part # 227-00027

Price is for Unit Perpetual License Fee

CLIN/BLIN: 2007BG - Unit Monthly Maintenance

CLIN/BLIN: 1007BH

Description: MS Windows NT Server V4.x Client License for a single client. Part # 351-00187. Price is for Unit Perpetual License Fee. License for a single client to access any Windows NT Server in a network. These are required for any computer, including those running any computer, including those running Windows for Workgroups, Windows 95, or Windows NT Workstation. Acquired separately from Windows NT Server, Enterprise Edition.

CLIN/BLIN: 2007BH

Description: Unit Monthly Maintenance for CLIN 1007 BH.

CLIN/BLIN: 1007BJ

Description: MS Windows NT Server V4.x Client License for 50 clients. Part # 351-00220. Price is for Unit Perpetual License Fee.

CLIN/BLIN: 2007BJ - Unit Monthly Maintenance

CLIN/BLIN: 1007BK

Description: MS Windows NT Server V4.x Client License for 500 clients. Part # 351-00222. Price is for Unit Perpetual License Fee.

CLIN/BLIN: 2007BK - Unit Monthly Maintenance

CLIN/BLIN: 1007BL

Description: MS Windows NT Server V4.x Client License for 1000 clients. Part # 351-00224. Price is for Unit Perpetual License Fee.

CLIN/BLIN: 2007BL - Unit Monthly Maintenance

NOTE: There is no Software Warranty on the contract other than for those items that fail to pass the acceptance test within the prescribed acceptance test period. Software maintenance is available on the Contract and may be purchased. TMA includes software maintenance CLINs and

prices on all quotes for software. Failure to order software maintenance will preclude updates to the software.

CAD-2 NAVFAC (IM/FCAD2)

Vehicle: N66032-93-D-0021

Intergraph

POC: Tony Hinsen (703) 325-7360

<http://cad2www.cordant.com/cad/navfac.htm>

CLIN/BLIN: A013BG

Description: MS Windows NT Workstation SW (V4.0) one client license Microsoft Windows NT is the 32-bit, multithreaded, multitasking operating system for Intel-based workstations. SH\*\*265 is Microsoft Windows NT Workstation version 4.0 with support for up to two processors. ADV level support includes phone support assistance with installation, configuration and trouble-shooting the use of:

NTW operating system,

Intergraph drivers (SCSI, video and network) and HAL,

Network protocols (NetBEUI, TCP/IP, DLC, NWLink IPX/SPX, and DHCP, and connectivity,

Services: Netware client, RAS, WINS, and DHCP,

Printer/peripheral drivers for devices purchased from Intergraph. Also error message interpretation for NTW and drivers. NTW "bug" reporting to Microsoft. Driver bug reporting to Intergraph with fixes provided via IBBS/ftp/www site. Version upgrades are available from SHK0265. Note: Installation is not included. Installation of the software may be performed by qualified Government personnel or installation services may be purchased separately from the Intergraph CAD-2 contract.

CLIN Part Number(s):

- SHBY265AA-0400A - Microsoft NT Workstation S/W for CAD-2
- SHK0265A3-0100E - Microsoft NT Workstation S/W For CAD-2

Monthly Maintenance - A013BGS Software Support

CAD-2 NAVFAC (IM/FCAD2)

Vehicle: N66032-93-D-0022

TRACOR

POC: Tony Hinsen (703) 325-7360

CLIN/BLIN: C040AX

Description: MS Windows NT Server Operating System. Microsoft NT Server is a multi-purpose network operating system that offers file and print services while providing the infrastructure to run client-server applications. Windows NT server also integrates a broad range of communications services and tools for handling network management ranging from small workgroups to an enterprise network. \*Multiple User Perpetual License (MUPL); Perpetual Right-to-Use License.

CLIN/BLIN: C040BE

Description: MS Windows NT Workstation Operating Software. Microsoft Windows NT Workstation provides the end-user with the foundation to work in a multi-processing environment. Using the capabilities of a 32-bit multi-tasking operating system and symmetric multiple processing (SMP) support, Windows NT Workstation can handle more resource intensive tasks. In addition, it is configurable to integrate into existing networks with built-in driver support for TCP/IP and IPX/SPX protocols.

CLIN/BLIN: C040CN

Description: Windows NT Server Client Access. Part No: NT SRVR CAL. Microsoft NT Server Client Access allows additional clients access to an existing server hosting Microsoft NT Server. For servers hosting a large number of workstations, it is crucial to have the flexibility to increase the number of users as needed in increments of one (1). Notes: A current Microsoft NT Server license is required (end-user must provide serial number).

CAD-2 NAVAIR/SPAWAR

Vehicle: N66032-94-D-0012

Intergraph

POC: Bob Donahue (301) 757-9146

CLIN/BLIN: 03BB11

Description: MS Windows NTW Workstation (V4.0) for non-Intergraph Microsoft Windows NT is the 32-bit, multithreaded, multitasking operating system for Intel-based workstations. SH\*\*265 is Microsoft Windows NT Workstation version 4.0 with support for up to two processors. BSM level support includes version upgrades plus phone support assistance with installation, configuration and trouble-shooting the use of:

- NTW operating system,
- Intergraph drivers (SCSI, video and network) and HAL,
- Network protocols (NetBEUI, TCP/IP, DLC, NWLink IPX/SPX, and DHCP, and connectivity,
- Services: Netware client, RAS, WINS, and DHCP, and 5) printer/peripheral
- drivers for devices purchased from Intergraph. Also error message interpretation for NTW and drivers. NTW "bug" reporting to Microsoft. Driver bug reporting to Intergraph with fixes provided via IBBS/ftp/www site.

CLIN Part Number(s): SHBY265AA-0400A - Microsoft NT Workstation S/W for CAD-2

CLIN/BLIN: 03BC11

Description: MS Windows NTW Workstation (V4.0) for non-Intergraph (License only). Microsoft Windows NT is the 32-bit, multithreaded, multitasking operating system for Intel-based workstations. SH\*\*265 is Microsoft Windows NT Workstation version 4.0 with support for up to two processors.

CLIN Part Number(s) SHBY265AA-0400A - Microsoft NT Workstation S/W For CAD-2

CAD-2 NAVSEA

Vehicle: N66032-91-D-0003

Intergraph

POC: Craig Carlson (703) 602-5556

CLIN/BLIN: S005NFA

Description: MS Windows NT Workstation V4.0 (Non-Intergraph Workstation) (Complete Package). Microsoft Windows NT Workstation is the NT operating system software provided for Intel-based PCs and Workstations. NOTE: The software installation clause of this contract is waived for this product. This CLIN is version-specific; subsequent versions will be added by mutual agreement.

#### Monthly Maintenance

Prerequisites: Users wishing to purchase phone support must purchase either the complete package or license only CLIN from this contract to qualify.

CLIN Part Number(s): SHBY265AA-0400A - Microsoft NT Workstation S/W for CAD-2

S005NFAP - MS Windows NT Workstation

CLIN/BLIN: S005NNA

Description: MS Windows NT Workstation V4.0 (Non-Intergraph Workstation) (License only). Microsoft Windows NT Workstation is the NT operating system software provided for Intel-based PCs and Workstations. This CLIN is provided as license only and includes a 30-day media warranty. Prerequisites - Users wishing to purchase phone support must purchase CLIN S005NNAP.

CLIN Part Number(s) - SHBY265AA-0400A - Microsoft NT Workstation S/W for CAD-2

S005NNAP - Monthly Maintenance

#### NTOPS

Vehicle: N68939-96-D-0007

TRACOR

POC: Lyn Purvis (619) 524-7541

<http://cad2.www.cordant.com/ntops/ntops.htm>

CLIN/BLIN: 0041FD

Description: MS Windows 95 Upgrade (Floppy Disk Media). The Multi-Processing Operating System Windows 95 Upgrade is a 32-bit operating system that executes multiple application programs. Notes: If this SLIN is ordered with any Desktop or Notebook, Windows 95 will be installed rather than Windows for Workgroups 3.11 & MS-DOS 6.22.

CLIN/BLIN: 0041CD

Description: MS Windows 95 Upgrade (CD-ROM Media). The Multi-Processing Operating System Windows 95 Upgrade is a 32-bit operating system that executes multiple application programs. Notes: If this SLIN is ordered with any Desktop or Notebook, Windows 95 will be installed rather than Windows for Workgroups 3.11 & MS-DOS 6.22.

CLIN/BLIN: 0049CD

Description: MS Windows NT Workstation OS (CD-ROM Media). MS Windows NT Workstation Operating System (CD-ROM Media) provides the end-user with the foundation to work in a multi-processing environment. Using the capabilities of a 32-bit multi-tasking operating system and symmetric multiple processing (SMP) support, Windows NT Workstation can handle

more resource intensive tasks. In addition, it is configurable to integrate into existing networks with built-in driver support for TCP/IP and IPX/SPX protocols.

FISC Philadelphia

Vehicle: N00140-97-A-3692

GTSI

POC: Dorothy Hennigan (757) 322-3998

CLIN/BLIN: 8020

Description: Windows NT Workstation 4.0 English Disk Kit CD ROM Boot Disks. MFG PN: 236-00036; GTSI PN: 3494-122451

CLIN/BLIN: 8021

Description: Windows NT Workstation 4.0 English NA DocKit. MFG PN: 236-00037; GTSI PN: 3494-122442

CLIN/BLIN: 8023

Description: Windows NT Workstation 4.0 Competitive Product Upgrade. MFG PN: 236-074V40VL; GTSI PN: 3493-123532

CLIN/BLIN: 8024

Description: Windows NT Workstation 4.0 Upgrade from Windows NT 3.X. MFG PN: 236-274-40VL; GTSI PN: 3493-123533

CLIN/BLIN: 8025

Description: Windows 95 Version Upgrade from Windows 3.X. MFG PN: 060-050-95VL; GTSI PN: 3493-123424

CLIN/BLIN: 8026

Description: Windows 95 English Disk Kit 3.6. MFG PN: 050-031-918; GTSI PN: 3494-122389

CLIN/BLIN: 8027

Description: Windows 95 English DocKit. MFG PN: 050-030-900; GTSI PN: 3494-122340

CLIN/BLIN: 8028

Description: Windows NT Workstation 1-Time Upgrade Win, Win 95, Windows for Workgroups. MFG PN: 236-00558; GTSI PN: 3494-123605

CLIN/BLIN: 8036

Description: Windows NT Server 4.0 License. MFG PN: 2273276V40VL; GTSI PN: 3493-123541

CLIN/BLIN: 8042

Description: Windows 95 Version Upgrade from Windows 3.x. MFG PN: 050-050-95VL; GTSI PN: 3493-123424

CLIN/BLIN: 8043

Description: Windows NT Server 4.0 English NA Disk Kit NA Only CD-ROM w/Boot. MFG PN: 227-00284; GTSI PN: 3494-122450

ViViD

Vehicle: N68939-97-D-0041

GTE

POC: David Mullins (619) 524-7538



CLIN/BLIN: XXXX

Description: JAVA - Proposal under evaluation

CLIN/BLIN: XXXX

Description: JAVASCRIPT - Proposal under evaluation

CLIN/BLIN: XXXX

Description: MS Windows NT Client Access - Proposal under evaluation

CLIN/BLIN: XXXX

Description: MS Windows NT Server - Proposal under evaluation

CLIN/BLIN: XXXX

Description: MS Windows NT Workstation - Proposal under evaluation

ViViD

Vehicle: N68939-97-D-0040

Lucent

POC: David Mullins (619) 524-7538

CLIN/BLIN: XXXX

Description: JAVA - Proposal under evaluation

CLIN/BLIN: XXXX

Description: JAVASCRIPT - Proposal under evaluation

CLIN/BLIN: XXXX

Description: MS Windows NT Client Access - Proposal under evaluation

CLIN/BLIN: XXXX

Description: MS Windows NT Server - Proposal under evaluation

CLIN/BLIN: XXXX



# Appendix E – Release Notes

Reserved for Future Use.



# Appendix F – Record of Changes

Reserved for Future Use.



# Appendix G – Bibliography

The DON ITSG is founded upon several Department of Defense (DoD), Defense Information Systems Agency (DISA) and Department of the Navy (DON) directives and documents. The framework is based upon specifications, standards, guidance and best practices found in government, educational, commercial, and international technical literature. For quick reference, each DON ITSG Chapter contains a list of documents used in creating the chapter or that could be useful to the reader. The Bibliography compiles the list of references used in alphabetical order and sets the foundation documents apart from the remaining technical references.

The references are listed in alphabetical order per the following format:

**Author (if known) (Author's Organization or Organization Producing the Reference); "Title of the Reference" or Book Title, Date of the Reference, Publisher (if applicable), URL (date of access), {Where the reference is cited in the ITSG}**

Note that references cited as "Internet Drafts" expire in six months.

Product and company names mentioned herein may be privately owned trademarks. Reference to them in the bibliography does not imply endorsement or recommendation by the Government. In this context they are used as sources of information.

## Foundation Documents

Information Technology Management Reform Act of 1996 (ITMRA 96)  
<http://www.dtic.mil/c3i/cio/references/itmra/itmra.Annot.html> (24 May 1998)

Department of Defense(DoD) *Joint Technical Architecture*, Version 1.0, 22 August 1996, UNCLASSIFIED (Draft Version 2.0 of 28 July 1998 is available for comment through <http://www-jta.itsi.disa.mil/>).

Department of Defense (DOD); *Information Technology Standards Guidance (ITSG) -- Version 3.1*; 7 April 1997, [www-itsg.itsi.disa.mil/itsg\\_v31.htm](http://www-itsg.itsi.disa.mil/itsg_v31.htm) (23 May 1998)

Joint Staff, J6, "C4I For the Warrior" 12 June 1992

Joint Staff, "Joint Vision 2010, America's Military: Preparing for Tomorrow"; 1996

Chief of Naval Operations (CNO) N6 Copernicus: C4ISR for the 21<sup>st</sup> Century, September 1997

U.S. Marine Corps "...From the Sea" September 1992

Defense Information Systems Agency (DISA): Joint Defense Information Infrastructure Control Center Concept of Operations (DII CC CONOPS); 22 July 1996

Defense Information Systems Agency (DISA); "Defense Information Infrastructure Common Operating Environment (DII COE);" 1 May 1998; <http://spider.osfl.disa.mil/dii/> (24 May 1998)

SPAWAR Systems Center San Diego; "Navy C4ISR Technical Architecture" Version 0.9; 17 September 1997.

## **Technical References**

These references are available at the end of each chapter.



# Appendix H - Acknowledgments

The DON CIO ITSG Document was written by a committee which included the DON ITSG IPT, members of the DON CIO Staff, and ad hoc DON personnel who provided their time and effort to create a useful product. This attempts to acknowledge the works of the most significant contributions.

Shown is a list of people on the left followed by their organization. On the far right is their area of contribution to the ITSG. Bold indicates that the individual was the primary contributor.

## The DON CIO ITSG IPT

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